Name : Priyanshu Jha

Subject : Practical File for Computer

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**Program-1**

*#For Multiple Print Statement*

*#Bio data of Mr. Priyanshu Jha*PJ=**"Priyanshu Jha"**Name=**"My name is Priyanshu Jha"**Adm=**"My Admission No. is 10618 "**Class=**"I read in Eleventh-B Class"**School=**"I study in MASD Public School"**Address=**" I live in Panipat"**Hobbies=**"My Hobbies are to explore the thing and simplify them"**Favcolor=**"My favorite color is Chromium Black "**Aim=**"My Aim is to achieve great height in my life and never depend on anybody else"**Weak=**"My weakness is ---The Crowd----"**Sub=**"My favorite subject is Computer Science "**Moto=**"I will win not immediately, but Definitely "**print(Name)  
print(Adm)  
print(Class)  
print(School)  
print(Address)  
print(Hobbies)  
print(Favcolor)  
print(Aim)  
print(Weak)  
print(Sub)  
print(Moto)  
print(**"PYHTON WLECOMES MR. "** ,PJ, **"IN THE WORLD OF PYTHON"**)

**Output-1**

My name is Priyanshu Jha

My Admission No. is 10618

I read in Eleventh-B Class

I study in MASD Public School

I live in Panipat

My Hobbies are to explore the thing and simplify them

My favorite color is Chromium Black

My Aim is to achieve great height in my life and never depend on anybody else

My weakness is ---The Crowd----

My favorite subject is Computer Science

I will win not immediately, but Definitely

PYHTON WLECOMES MR. Priyanshu Jha IN THE WORLD OF PYTHON

**Program-2**

*#To swap the Three Number and swap common variables*p,p,p=1,2,3  
**'Here p=3 as python take the final value only of a variable'**q,r,s=5+p,6+p,7+p  
print(**"The value of p,q,r,s are "**,p,q,r,s)  
  
a,b,c=10,20,30

Print(**"The Original Numbers are ", a,b,c)**  
c,b,a=a,b,c  
print(**"The result after Swapping are "**,a,b,c)

**Output-2**

The value of p,q,r,s are 3 8 9 10

The Original Numbers are 10 20 30

The result after Swapping are 30 20 10

**Program – 3**

*#To swap the Two Number with a 3rd variable*x=eval(input(**"Enter 1st No. "**))  
y=eval(input(**"Enter 2nd No. "**))  
z=y  
y=x  
x=z  
print(**"The result after Swapping are "**,x,y)

**Output-3**

Enter 1st No. 10

Enter 2nd No. 20

The result after Swapping are 20 10

**Program-4**

*#To do Arithmetic Operation on two numbers*x=eval(input(**"Enter 1st No. "**))  
y=eval(input(**"Enter 2nd No. "**))  
print(**"The Sum of the Number is "**, x+y)  
print(**"The Difference of the number is"**,x-y)  
print(**"The Product of the Number is "**, x\*y)  
print(**"The Division of the Number is"**, x/y)  
print(**"The Modulus (Remainder) of the Number is "**,x%y )

**Output-4**

Enter 1st No. 200

Enter 2nd No. 100

The Sum of the Number is 300

The Difference of the number is 100

The Product of the Number is 20000

The Division of the Number is 2.0

The Modulus (Remainder) of the Number is 0

**Program-5**

*#To Find the Area of Cuboid*unit=**"Square Meter"**print(**"For Cuboid"**)  
l,b,h=int(input(**"Enter Lenght "**)),eval(input(**"Enter Breadth "**)),eval(input(**"Enter Height "**))  
TSA\_CUBOID=2\*((l\*b)+(b\*h)+(h\*l))  
CSA\_CUBOID=2\*l\*(b+h)  
print(**"The Total Surface Area of the Cuboid is "**, TSA\_CUBOID,unit)  
print(**"The Curved Surface Area of the Cuboid is "**, CSA\_CUBOID,unit)

**Output-5**

For Cuboid

Enter Lenght 10

Enter Breadth 10

Enter Height 10

The Total Surface Area of the Cuboid is 600 Square Meter

The Curved Surface Area of the Cuboid is 400 Square Meter

**Program-6**

*#To Find the Information of Special Figures*unit=**"Meter"**print(**"FOR Circles "**)  
r=int(input(**"Enter Radius in Meter "**))  
Circumference=2\*(3.14)\*(r)  
Area1=(22/7)\*(r)\*\*2  
print(**"The Circumference of Circle is "**, Circumference,unit)  
print(**"The Area of the Circle is "**, Area1,unit)  
  
print(**"FOR TRINAGLES "**)  
b,h=int(input(**"Enter Length of Base in Meter "**)),eval(input(**"Enter height in Meter "**))  
Area2=(1/2)\*b\*h  
print(**"The Total Area of the Triangle is "**, Area2,unit)  
  
print(**"For RECTANGLE"**)  
l,w=int(input(**"Enter Length in Meter "**)),eval(input(**"Enter breadth in Meter "**))  
Area3=l\*b  
Perimeter1=2\*(l+w)  
print(**"The Total Area of the Rectangle is "**, Area3,unit)  
print(**"The Perimeter of the Rectangle is "**, Perimeter1,unit)

**OUTPUT-6**

FOR Circles

Enter Radius in Meter 200

The Circumference of Circle is 1256.0 Meter

The Area of the Circle is 125714.28571428571 Meter

FOR TRINAGLES

Enter Length of Base in Meter 50

Enter height in Meter 30

The Total Area of the Triangle is 750.0 Meter

For RECTANGLE

Enter Length in Meter 20

Enter breadth in Meter 50

The Total Area of the Rectangle is 1000 Meter

The Perimeter of the Rectangle is 140 Meter

For Square

Enter Length of side in Meter 29

The Total Area of the Square is 841 Meter

The Perimeter of the Square is 116 Meter

**Program-7**

*#Unit Converter*print(**"FOR Kilometer into miles "**)  
km=int(input(**"Enter Value in KM "**))  
miles=km\*0.621371  
print(**"MILES : "**, miles)  
  
  
print(**"FOR TONNES into QUINTAL,KG and GRAMS "**)  
Tonnes=int(input(**"Enter Weight in Tonnes "**))  
QUINTALS=Tonnes\*10  
KG=Tonnes\*1000  
GRAMS=Tonnes\*1000\*1000  
print(**"Tonnes : "**, Tonnes)  
print(**"QUINTALS : "** , QUINTALS)  
print(**"Kilograms : "**, KG )  
print(**"GRAMS : "**, GRAMS)

**Output-7**

FOR Kilometer into miles

Enter Value in KM 90

MILES : 55.92339

FOR TONNES into QUINTAL,KG and GRAMS

Enter Weight in Tonnes 1

Tonnes : 1

QUINTALS : 10

Kilograms : 1000

GRAMS : 1000000

**Program-8**

*#Celsius to Fahrenheit And Fahrenheit to Celsius*print(**"FOR Celsius to Fahrenheit "**)  
C=eval(input(**"Enter Temperature in Celsius "**))  
F=C\*9/5+32  
print(**"Temperature In Fahrenheit is : "**, F)  
  
  
  
print(**"FOR Fahrenheit to Celsius "**)  
F1=eval(input(**"Enter Temperature in Fahrenheit "**))  
C1=(F1-32)\*(5/9)  
print(**'Temperature In Celsius is : '**, C1)

**Output-8**

FOR Celsius to Fahrenheit

Enter Temperature in Celsius 100

Temperature In Fahrenheit is : 212.0

FOR Fahrenheit to Celsius

Enter Temperature in Fahrenheit 212

Temperature In Celsius is : 100.0

**Program-9**

*#To calculate the workdone by 3 person*unit=**"Days"**x=eval(input(**"Enter Time Taken by the 1st Person to complete the same work(In days) : "**))  
y=eval(input(**"Enter Time Taken by the 2nd Person to complete the same work(In days) : "**))  
z=eval(input(**"Enter Time Taken by the 3rd Person to complete the same work(In days) : "**))  
workdone=(x\*y\*z)/((x\*y)+(y\*z)+(z\*x))  
print(**"Individually 1st, 2nd , 3rd can take following days respectively : "**,x, y, z)  
print(**"Time to complete the same work by three person is :"**, workdone,unit)

**Output-9**

Enter Time Taken by the 1st Person to complete the same work(In days) : 365

Enter Time Taken by the 2nd Person to complete the same work(In days) : 720

Enter Time Taken by the 3rd Person to complete the same work(In days) : 365

Individually 1st, 2nd , 3rd can take following days respectively : 365 720 365

Time to complete the same work by three person is : 145.595567867036 Days

**Program-10**

*#PyAPP Generate Your Sick Leave Application using Pyhton*Name=str(input(**"Enter your Good Name : "**))  
School=str(input(**"Enter your School Name : "**))  
Address=str(input(**"Enter your Complete Address :"**))  
Leave=str(input(**"Enter the No. of days you want leave : "**))

**"\n"**  
print(**'''To  
The Principal,''' "\n"**,School, **"\n"**,Address, **"\n"  
'''Subject: Sick leave request   
Respected Sir,  
It is respectfully stated that I am running a high fever and doctor diagnosed my condition   
and advised me for a rest . I feel drowsiness and going through severe headache and body   
pain. Since , my doctor has completely appointed bed rest for a '''**,Leave,**'''days. I have been a remarkable student in the school, achieving high position in every grade.My attendance report of this year is also 100%. I request you to allow me leave for a week so I get back on my feet and   
work with my indistinguishable vibrancy and full spirit as before.**

**As soon as I am done with recovery, I would take help of my fellows and recover course as soon as possible and give my best in examination.  
I, therefore, urge you to accept my application and also consider my academic and attendance report while granting me leave.  
Yours Truly,'''**, **"\n"**, Name)

**OUTPUt-10**

Enter your Good Name : Priyanshu Jha

Enter your School Name : SPD International School

Enter your Complete Address : Panipat, Haryana-132103

Enter the No. of days you want leave : 5

To

The Principal,

SPD International School

Panipat, Haryana-132103

Subject: Sick leave request

Respected Sir,

It is respectfully stated that I am running a high fever and doctor diagnosed my condition

and advised me for a rest . I feel drowsiness and going through severe headache and body

pain. Since , my doctor has completely appointed bed rest for a 5 days. I have been a remarkable student in the school, achieving high position in every grade.My attendance report of this year is also 100%. I request you to allow me leave for a week so I get back on my feet and

work with my indistinguishable vibrancy and full spirit as before.

As soon as I am done with recovery, I would take help of my fellows and recover course as soon as possible and give my best in examination.

I, therefore, urge you to accept my application and also consider my academic and attendance report while granting me leave.

Yours Truly,

Priyanshu Jha

**Program-11**

*# APP to calculate Body Mass Index (BMI) of a person*weight=float(input(**"Enter Your Weigth In Kg : "**))  
height=float(input(**"Enter your Height in Meter : "**))  
bmi=int(weight/(height\*height))  
print(**"The BMI is : "**, bmi)

**Output-11**

Enter Your Weigth In Kg : 54

Enter your Height in Meter : 1.7

The BMI is : 18

**Program-12**

*# TEXT REPEATER*WORD=str(input(**"Enter Your Text to Repeat : "**))  
No=int(input(**"Enter the No. of time you want to repeat : "**))  
rep=(WORD\*No)  
print(rep)

**OUTPUT-12**

Enter Your Text to Repeat : PJ Loves Tech

Enter the No. of time you want to repeat : 6

PJ Loves Tech PJ Loves Tech PJ Loves Tech PJ Loves Tech PJ Loves Tech PJ Loves Tech

**Program-13**

*# Numerical Pattern Creator without loop*x=eval(input(**"Enter Your Number to create a series : "**))  
y=eval(input(**"Enter the gap between Numbers : "**))  
print(x)  
x,y=x+y,x  
print(x)  
x=x+y  
print(x)  
x=x+y  
print(x+y)  
x=x+y  
print(x+y)  
x=x+y  
print(x+y)  
x=x+y  
print(x+y)  
x=x+y  
print(x+y)

**Output-13**

Enter Your Number to create a series : 2

Enter the gap between Numbers : 2

2

4

6

10

12

14

16

18

**Program-14**

*# Average of 6 data*a=int(input(**"Enter Your 1stNumber: "**)

b=int(input(**"Enter Your 2ndNumber: "**)

c=int(input(**"Enter Your 3rdNumber: "**)

d=int(input(**"Enter Your 4thNumber: "**)

e=int(input(**"Enter Your 5thNumber: "**)

f=int(input(**"Enter Your 6thNumber: "**)

sum=a+b+c+d+e+f  
avg=sum/6  
print(**" The Average of the above data is : "**, sum/6)

**Output-14**

Enter Your 1st Number: 500

Enter Your 2nd Number: 200

Enter Your 3rd Number: 300

Enter Your 4th Number: 400

Enter Your 5th Number: 100

Enter Your 6th Number: 1000

The Average of the above data is : 416.6666666666667

**Program-15**

*# PyApp to Guess you character by the 1st letter of your Name(Dynamic Variable)*print(**"Welcome to the Game"**)  
**"\n"**A,B,C,D,E,F,G,H,I=**"Sensitive"**,**"Caring"**,**"Cautious"** ,**"Courageous"**,**"Disciplined"**,**"Farsighted"**,**"Focused"**,**"Friendly"**,**"Hardworking"**J,K,L,M,N,O,P=**"Helpful"**,**"Trustworthy"**,**"Sincere"**,**"Loyal"**,**"Joyful"**,**"Loving"**,**"Innovative and Friendly"**Q,R,S,T,U,V=**"Modest"**,**"Motivating"**,**"Obedient"**,**"Open-minded"**,**"Optimistic"**,**"Passionate"**W,X,Y,Z=**"Punctual"**,**"Realistic"**,**"Reliable"**,**"Responsible"**alpha=(input(**"Enter 1st Letter of Your Name in Capital letter : "**))  
print(**" You are"**,eval(alpha))

**OUTPUT-15**

Welcome to the Game

Enter 1st Letter of Your Name in Capital letter : P

You are Innovative and Friendly

**Program-16**

*# PyApp to Generate Trigonometric Ratios(Limited)*print(**'''You are using PyTigon app v1.0  
This is unique app made for students to help in the work  
This app is made by Mr. Priyanshu Jha from Panipat  
The result are approx bounded by limits with error percentage 0.00000035  
IMP:- Only Those angles allowed where value of all Trigonometry is Defined   
'''**)  
x=eval(input(**"Enter Angle in Degree in limit of (-1 < Angle < 181 ) : "**))  
sin=4\*x\*(180-x) / (40500-x\*(180-x))  
print(**"The sine of the given Angle is : "**, sin)  
cos=(32400-(4\*(x\*\*2)))/(32400+(x\*\*2))  
print(**"The Cosine of the given Angle is : "**, cos)  
tan=sin/cos   
print(**"The Tangent of the given Angle is : "**,tan)  
cosec=(1/sin)   
print(**"The Cosecant of the given Angle is : "**,cosec)  
sec=(1/cos)   
print(**"The Secant of the given Angle is : "**,sec)  
cot=(1/tan)   
print(**"The Cotangent of the given Angle is : "**,cot)  
print(**'''   
 Thank you for using our App . Kindly visit Again '''**)

**Output-16**

You are using PyTigon app v1.0

This is unique app made for students to help in the work

This app is made by Mr. Priyanshu Jha from Panipat

The result are approx bounded by limits with error percentage 0.00000035

IMP:- Only Those angles allowed where value of all Trigonometry is Defined

Enter Angle in Degree in limit of (-1 < Angle < 181 ) : 45

The sine of the given Angle is : 0.7058823529411765

The Cosine of the given Angle is : 0.7058823529411765

The Tangent of the given Angle is : 1.0

The Cosecant of the given Angle is : 1.4166666666666665

The Secant of the given Angle is : 1.4166666666666665

The Cotangent of the given Angle is : 1.0

Thank you for using our App . Kindly visit Again

**Program-17**

*# PyApp for Simple And Compound Interest(compounded Annually) and calculate monthly EMI*P=float(input(**"Enter the Amount you Need as Loan : "**))  
T=float(input(**"Enter the Duration for which you require Loan (In Years) : "**))  
R=float(input(**"Enter the Minimum Rate of Interest that you can pay(In percentage) :"**))  
simple\_int=(P\*T\*R)/100  
compound\_int=(P\*((1+(R/100))\*\*T)-P)  
print(**"The simple interest of the give data is : "**,simple\_int)  
print(**"The compound interest of the give data is : "**,compound\_int)  
sum\_simple=simple\_int+P  
print(**"Total Re-payment In case of Simple Interest will be : "**,sum\_simple)  
sum\_compound=compound\_int+P  
print(**"Total Re-payment In case of Compound Interest will be : "**,sum\_compound)  
**"\n"**print(**"Monthly EMI in case of Simple Interest Will be : "**,sum\_simple/(T\*12))  
print(**"Monthly EMI in case of Compound Interest Will be : "**,sum\_compound/(T\*12))

**Output-17**

Enter the Amount you Need as Loan : 99920501

Enter the Duration for which you require Loan (In Years) : 5

Enter the Minimum Rate of Interest that you can pay(In percentage) :2

The simple interest of the give data is : 9992050.1

The compound interest of the give data is : 10399806.000226408

Total Re-payment In case of Simple Interest will be : 109912551.1

Total Re-payment In case of Compound Interest will be : 110320307.00022641

Monthly EMI in case of Simple Interest Will be : 1831875.8516666666

Monthly EMI in case of Compound Interest Will be : 1838671.7833371067

**Program-18**

*#Showcase of Various data representations*

*z=(1+2.56j)+(-4-3.56j)  
print("The Complex No. in Python is shown as ", z)  
print("Real Part of Complex no. is ",z.real)  
print("Imaginary part of Complex No. is " ,z.imag)  
List=['Good', 'Night', 2, 'U', 'All' ]#mutable  
print ("Example of List is ", List)  
List[3],List[4]='only', 'me'  
print("Modified List is ", List)  
Tuple=('Have', 'a' ,'GR8', 'Day') #Immutable  
print("Tuple is Immutable i.e Non-Chnagebale, Ex. of Tuple is ", Tuple)  
Set={1,2,3,4,4,'No.'}  
print(" The Example of Set is ", Set)  
Dict={'x':5,'y':6}  
print("Exmaple of Dictionary In Python", Dict)  
print(" The value of of y in Dictionary is ", Dict['y'])  
w=z  
print("memory id of z ", id(z))  
print("memory id of w (w=z) ", id(w))#changing variables does not change memory location but changing value changes memory location*

**output-18**

The Complex No. in Python is shown as (-3-1j)

Real Part of Complex no. is -3.0

Imaginary part of Complex No. is -1.0

Example of List is ['Good', 'Night', 2, 'U', 'All']

Modified List is ['Good', 'Night', 2, 'only', 'me']

Tuple is Immutable i.e Non-Chnagebale, Ex. of Tuple is ('Have', 'a', 'GR8', 'Day')

The Example of Set is {'No.', 1, 2, 3, 4}

Exmaple of Dictionary In Python {'x': 5, 'y': 6}

The value of of y in Dictionary is 6

memory id of z 20766920

memory id of w (w=z) 20766920

**Program-19**

*#pyAPP for Area & Volume of Sphere  
import math  
a=float(input("Enter the Radius of Sphere in Meter : "))  
area=math.pi\*math.pow(a,2)  
volume=4\*math.pi\*math.pow(a,3)  
print("The radius of Sphere is ", a , "Meter")  
print("The area of Sphere is ", area , "Meter Square")  
print("The volume of Sphere is ", volume, "Meter Cube ")*

**output-19**

Enter the Radius of Sphere in Meter : 66.32

The radius of Sphere is 66.32 Meter

The area of Sphere is 13817.800171812498 Meter Square

The volume of Sphere is 3665586.0295784185 Meter Cube

**Program-20**

*# PyApp to Generate Trigonometric Ratio of SIN & COS  
e=2.718281  
degree=float(input("Enter the Angle in Degree : "))  
rad=(3.14\*degree)/180  
print("Angle in Radian : ", rad,"radian")  
x=rad  
sin=(e\*\*(x\*1j)).imag  
print("The value of SIN at ", degree," Degree is ", round(sin,1))  
cos=(e\*\*(x\*1j)).real  
print("The value of COS at ", degree," Degree is " , round(cos,1))*

**output-20**

Enter the Angle in Degree : 90

Angle in Radian : 1.57 radian

The value of SIN at 90.0 Degree is 1.0

The value of COS at 90.0 Degree is 0.0

**Program-21**

*# PyApp to Guess you character & Your Lucky Number***import** random  
print(**"Welcome to the Game"**)  
**"\n"**Bucket=[**"Sensitive"**,**"Caring"**,**"Cautious"**,**"Courageous"**,**"Disciplined"**,**"Farsighted"**,\

**"Focused"**,**"Friendly"**,**"Hardworking"**,**"Helpful"**,**"Trustworthy"**,**"Sincere"**,**"Loyal"**,\

**"Joyful"**,**"Loving"**,**"Innovative and Friendly"**,**"Modest"**,**"Motivating"**,**"Obedient"**,\

**"Open-minded"**,**"Optimistic"**,**"Passionate"**,**"Punctual"**,**"Realistic"**,**"Reliable"**,\

**"Responsible"**]  
alpha=(input(**"Enter Your Name: "**))  
print(**" You are"**, random.choice(Bucket))  
No=random.randrange(0,1001)  
X=random.randint(0,No)  
print(**"Your Today's Lucky Number is "**, X)

**output-21**

Welcome to the Game

Enter Your Name: Mr. X

You are Passionate

Your Today's Lucky Number is 546

**Program-22**

*# PyApp to MEAN, MODE, MEDIAN by STATISTICS***import** statistics **as** stat  
Data=list(map(float,input(**"Enter the Data Separated by Comma : "** ).split(**","**)))  
Mean=stat.mean(Data)  
Mode=stat.mode(Data)  
Median=stat.median(Data)  
print(**"Given List is :"**, Data)  
print(**"Mean of the Given Data is "**, Mean)  
print(**"Mode of the Given Data is "**, Mode)  
print(**"Median of the Given Data is "**, Median)

**output-22**

Enter the Data Separated by Comma : 22,13,28,13,22,25,7,13,25

Given List is : [22.0, 13.0, 28.0, 13.0, 22.0, 25.0, 7.0, 13.0, 25.0]

Mean of the Given Data is 18.666666666666668

Mode of the Given Data is 13.0

Median of the Given Data is 22.0

**Program-23**

*# PyApp to Find Area by Heron’s Formula***import** math  
a=int(input(**"Enter Length of 1st Side :"**))  
b=int(input(**"Enter Length of 2nd Side :"**))  
c=int(input(**"Enter Length of 3rd Side :"**))  
s=(a+b+c)/2  
Area=math.sqrt((s)\*(s-a)\*(s-b)\*(s-c))  
print (**"Area of the Triangle is "**, Area)

**output-23**

Enter Length of 1st Side :17

Enter Length of 2nd Side :23

Enter Length of 3rd Side :30

Area of the Triangle is 194.42222095223582

**Program-24**

*# PyApp to Generate Trigonometric Ratios for O<angle<180*print(**'''You are using PyTigon app v2.0  
This is unique app made for students to help in the work  
This app is made by Mr. Priyanshu Jha from Panipat  
The result are approx bounded by limits with error percenatge 0.00000035  
IMP:- Here 999999999 represents Not defined , it is done to avoid bugs  
'''**)  
x=eval(input(**"Enter Angle in Degree in limit of (-1 < Angle < 181 ) : "**))  
sin=4\*x\*(180-x) / (40500-x\*(180-x))  
print(**"The sine of the given Angle is : "**, sin)  
cos=(32400-(4\*(x\*\*2)))/(32400+(x\*\*2))  
print(**"The Cosine of the given Angle is : "**, cos)  
tan=sin/cos **if** cos!=0 **else** 999999999  
print(**"The Tangent of the given Angle is : "**,tan)  
cosec=(1/sin) **if** sin!=0 **else** 999999999  
print(**"The Cosecant of the given Angle is : "**,cosec)  
sec=(1/cos) **if** cos!=0 **else** 999999999  
print(**"The Secant of the given Angle is : "**,sec)  
cot=(1/tan) **if** tan!=0 **else** 999999999  
print(**"The Cotangent of the given Angle is : "**,cot)  
print(**'''   
 Thank you for using our App . Kindly visit Again  
 '''**)

**Output-24**

You are using PyTigon app v2.0

This is unique app made for students to help in the work

This app is made by Mr. Priyanshu Jha from Panipat

The result are approx bounded by limits with error percenatge 0.00000035

IMP:- Here 999999999 represents Not defined , it is done to avoid bugs

Enter Angle in Degree in limit of (-1 < Angle < 181 ) : 45

The sine of the given Angle is : 0.7058823529411765

The Cosine of the given Angle is : 0.7058823529411765

The Tangent of the given Angle is : 1.0

The Cosecant of the given Angle is : 1.4166666666666665

The Secant of the given Angle is : 1.4166666666666665

The Cotangent of the given Angle is : 1.0

Thank you for using our App . Kindly visit Again

**Program-25**

*# Calculate Body Mass Index (BMI) of a person with If/else module*weight=float(input(**"Enter Your Weigth In Kg : "**))  
height=float(input(**"Enter your Height in Meter : "**))  
bmi=int(weight/(height\*height))  
print(**"The BMI is : "**, bmi)  
low=**"Your BMI is less than average, Kindly eat something healthy "**high=**"Your BMI is high than average , Kindly go on diet "**mid=**"Your BMI is Good, Kindly Maintain it"  
if** (bmi<=18):  
 print(low)  
**elif** (bmi>18) **and** (bmi<25):  
 print(mid)  
**else** :  
 print(high)

**Output-25**

Enter Your Weigth In Kg : 54

Enter your Height in Meter : 1.7

The BMI is : 18

Your BMI is less than average, Kindly eat something healthy

**Program-26**

*#Pyapp to Know your Grade*N=int(input(**"Enter Your Marks out of 100 : "**))  
V=**"Grade"  
if** 101>N>=90 : print(V,**" E"**)  
**elif** 90>N>=75 : print(V,**" O"**)  
**elif** 75>N>=60 : print (V,**" A"**)  
**elif** 60>N>=45 : print (V,**" B"**)  
**elif** 45>N>=33 : print (V,**"C"**)  
**else** : print (V, **" F"**)

**Output-26**

Enter Your Marks out of 100 : 32

Grade F

**Program-27**

*#Pyapp To find triangle's Validity and its Type*a=int(input(**"Enter 1st side of triangle :"**))  
b=int(input(**"Enter 2nd side of triangle :"**))  
c=int(input(**"Enter 3rd side of triangle :"**))  
**if** a+b>c **and** b+c>a **and** c+a>b :  
 print(**"The Triangle is valid"**)  
 **if** a==b==c :  
 print(**"It is an equilateral triangle"**)  
 **elif** a==b **or** b==c **or** c==a :  
 print(**"It is an isosceles triangle"**)  
 **else** :  
 print(**"It is a scalene triangle"**)  
**else** :  
 print(**"Triangle is invalid"**)

**Output-27**

Enter 1st side of triangle :20

Enter 2nd side of triangle :30

Enter 3rd side of triangle :40

The Triangle is valid

It is a scalene triangle

**Program-28**

*#Pyapp to find if the given year is a leap year or Not.*Y=int(input(**"Enter the Year : "**))  
**if** Y%4==0 **and** Y%100!=0 **or** Y%400==0: print(**"It is a leap year"**)  
**else**: print(**"It is not a leap year"**)

**Output-28**

Enter the Year : 2003

It is not a leap year

**Program-29**

*#Pyapp to find the multiple of Divisor and count them.*print (**"Enter five numbers below"**, **"\n"**)  
n1=float(input (**"First number : "**))  
n2=float(input (**"Second number : "**))  
n3=float(input (**"Third number : "** ))  
n4=float(input ( **"Fourth number : "**))  
n5=float(input( **"Fifth number : "**))  
D=float (input (**"Enter divisor number: "** ))  
count=0  
print(**"Multiples of"**, D, **"are : "**)  
remainder = n1%D  
**if** remainder==0 :  
 print(n1, sep=**" "**)  
 count+=1  
remainder = n2%D  
**if** remainder==0 :  
 print(n2, sep=**" "**)  
 count+= 1  
remainder = n3%D  
**if** remainder==0 :  
 print(n3, sep=**" "**)  
 count+= 1  
remainder = n4\*D  
**if** remainder==0 :  
 print (n4, sep =**" "**)  
 count +=1  
remainder = n5%D  
**if** remainder==0 :  
 print (n5, sep =**" "**)  
 count +=1  
print()  
print(count, **"multiples of"**, D,**"Found"**)

**Output-29**

Enter five numbers below

First number : 200

Second number : 250

Third number : 4

Fourth number : 323

Fifth number : 22002020202002

Enter divisor number: 5

Multiples of 5.0 are :

200.0

250.0

2 multiples of 5.0 Found

**Program-30**

#Python Calculator

N1=float(input(**"Enter first number : "** ))  
N2=float(input( **"Enter second number : "**))  
op=(input(**"Enter operator [+- \* / %] : "**))  
result =0  
**if** op==**'+'**:  
 result = N1 + N2  
**elif** op == **'-'** :  
 result = N1 - N2  
**elif** op == **'\*'** :  
 result0020= N1\*N2  
**elif** op==**'/'**:  
 result=N1/N2  
**else**:  
 print(**"Invalid Operator, Aborting !!!!!!!!!!"**)  
print(N1,op,N2,**"="**,result)

**Output-30**

Enter first number : 50

Enter second number : 10

Enter operator [+- \* / %] : \*

50.0 \* 10.0 = 500.0

**Program-31**

*#Pyapp to Calculate Quadratic Equations***import** math  
print(**"FOR QUADRATIC EQUATIONS IN THE FORM OF Ax\*\*2 + Bx + c ,ENTER COEFFICIENTS BELOW : "**)  
a=int(input(**"ENTER THE VALUE OF A: "**))  
b=int(input(**"ENTER THE VALUE OF B : "**))  
c=int(input(**"ENTER THE VALUE OF C: "**))  
**if** a==0 :  
 print(**"Value of A ="**,a,**"should not be Zero"**)  
 print(**"\n !!!!!!!!!!Aborting!!!!!!!!!!!!!!!"**)  
**else**:  
 D=math.pow(b,2)-4\*a\*c  
 print(**"The value of Discriminant is "**, D)  
 **if** D>0:  
 r1 = (-b + (D\*\*1/2))/(2\*a)  
 r2 = (-b - math.sqrt(D))/(2\*a)  
 print(**"ROOTS ARE REAL AND UNEQUAL"**)  
 print(**"ROOT-1 ="**,r1,**"ROOT-2 = "**, r2)  
 **elif** D==0 :  
 r1 = (-b)/(2\*a)  
 print(**"ROOTS ARE REAL AND EQUAL"**)  
 print(**"ROOT-1 ="**,r1,**"ROOT-2 = "**, r1)  
 **else** :  
 print(**"ROOTS ARE COMPLEX AND IMAGINARY"**)  
 r1=(((-b+(D\*\*1/2j))/2\*a))  
 r2=(((-b-(D\*\*1/2j))/2\*a))  
 print(**"ROOT-1 ="**,r1,**"ROOT-2 = "**, r2,**"In Python j represents tradition i for complex numbers"**)

**Output-31**

CASE-I

FOR QUADRATIC EQUATIONS IN THE FORM OF Ax\*\*2 + Bx + c ,ENTER COEFFICIENTS BELOW :

ENTER THE VALUE OF A: 2

ENTER THE VALUE OF B : 3

ENTER THE VALUE OF C: 4

The value of Discriminant is -23.0

ROOTS ARE COMPLEX AND IMAGINARY

ROOT-1 = (-3+11.5j) ROOT-2 = (-3-11.5j) In Python j represents tradition i for complex numbers

CASE-II

FOR QUADRATIC EQUATIONS IN THE FORM OF Ax\*\*2 + Bx + c ,ENTER COEFFICIENTS BELOW :

ENTER THE VALUE OF A: 3

ENTER THE VALUE OF B : 5

ENTER THE VALUE OF C: 2

The value of Discriminant is 1.0

ROOTS ARE REAL AND UNEQUAL

ROOT-1 = -0.75 ROOT-2 = -1.0

**Program-32**

*#To find the factorial of a number using range and while*x=int(input(**"Enter a Number to prints its factorial "**))  
fact=1  
**for** i **in** range(2,x+1):  
 fact=i\*fact  
print(**"The factorial of "**,x,**" equals to "**, fact,**"Using range Module"**)  
print()  
fact2=1  
n=1  
**while** n<=x:  
 fact2=n\*fact2  
 n=n+1  
print(**"The factorial of "**,x,**" equals to "**, fact, **"Using while Module"**)

**Output-32**

Enter a Number to prints its factorial 5

The factorial of 5 equals to 120 Using range Module

The factorial of 5 equals to 120 Using while Module

**Program-33**

*#Print Mathematic Pattern Using Pyhton*

*x=38  
fact=-1  
sign=-1  
for i in range(5,x,5):  
 n=i\*fact  
 print( n, end=" ")  
 fact=fact\*(sign)*

*# Average of 6 data (multiple inputs) using map & Sorting Of data*a,b,c,d,e,f=map(int, input(**"Enter Your Number with a separator space : "**).split())  
sum=a+b+c+d+e+f  
avg=sum/6  
print(**" The Average of the above data is : "**, sum/6)  
list=[a,b,c,d,e,f]  
print(**"Ascending order : "**,(sorted(list)))  
print(**"Descending Order : "**, (sorted(list, reverse=**True**)))

**Output-33**

-5 10 -15 20 -25 30 -35

Enter Your Number with a separator space : 500 200 300 400 100 1000

The Average of the above data is : 416.6666666666667

Ascending order : [100, 200, 300, 400, 500, 1000]

Descending Order : [1000, 500, 400, 300, 200, 100

**Program-34**

*#PyGame from random and while module***import** random  
v=random.randint(1,30)  
ctrl=0  
**while** ctrl<5:  
 n=int(input(**"Enter a No. in the Range ( 1 to 30) : "**))  
 ctrl=ctrl+1  
 **if** n==v:  
 print(**"You win the Game, Congo!!!!!!!!!!"**)  
 **break  
 else** :  
 print(**"You lose the Game, Sorry : ( "**)

**Output-34**

Enter a No. in the Range ( 1 to 30) : 30

You lose the Game, Sorry : (

Enter a No. in the Range ( 1 to 30) : 29

You lose the Game, Sorry : (

Enter a No. in the Range ( 1 to 30) : 28

You lose the Game, Sorry : (

Enter a No. in the Range ( 1 to 30) : 27

You lose the Game, Sorry : (

Enter a No. in the Range ( 1 to 30) : 26

You lose the Game, Sorry : (

**Program-35**

#To print Graphical Pattern using Star(\*)

n=5 *# number of lines  
# upper half*k= round (n/2)\*2 *# for initial spaces***for** i **in** range(0,n,2):  
 **for** j **in** range(0,k+1):  
 print(end=**" "**)  
 **for** j **in** range(0,i+1):  
 print(**"\* "**, end=**""**)  
 k=k-2  
 print()  
*#lower Half*k=1  
**for** i **in** range(n-1, 0, -2):  
 **for** j **in** range(0, k + 2):  
 print(end=**" "**)  
 **for** j **in** range(0, i-1):  
 print(**"\* "**, end=**""**)  
 k = k + 2  
 print()

**Output-35**

**\***

**\* \* \***

**\* \* \* \* \***

**\* \* \***

**\***

**Program-36**

# program to find Prime No.

A=int(input(**"Enter Starting Number : "**))  
B=int(input(**"Enter Last Number : "**))  
**for** No **in** range (A,B+1):  
 **for** Fact **in** range (A+1,No):  
 **if** No%Fact==0:  
 print(**"The factor is "**,Fact, **"Hence"**,No,**"is not a Prime No."**,)  
 **break  
 else**:  
 print (No,**" Is a Prime Number !! "**)

**Output-36**

Enter Starting Number : 1

Enter Last Number : 25

1 Is a Prime Number !!

2 Is a Prime Number !!

3 Is a Prime Number !!

The factor is 2 Hence 4 is not a Prime No.

5 Is a Prime Number !!

The factor is 2 Hence 6 is not a Prime No.

7 Is a Prime Number !!

The factor is 2 Hence 8 is not a Prime No.

The factor is 3 Hence 9 is not a Prime No.

The factor is 2 Hence 10 is not a Prime No.

11 Is a Prime Number !!

The factor is 2 Hence 12 is not a Prime No.

13 Is a Prime Number !!

The factor is 2 Hence 14 is not a Prime No.

The factor is 3 Hence 15 is not a Prime No.

The factor is 2 Hence 16 is not a Prime No.

17 Is a Prime Number !!

The factor is 2 Hence 18 is not a Prime No.

19 Is a Prime Number !!

The factor is 2 Hence 20 is not a Prime No.

The factor is 3 Hence 21 is not a Prime No.

The factor is 2 Hence 22 is not a Prime No.

23 Is a Prime Number !!

The factor is 2 Hence 24 is not a Prime No.

The factor is 5 Hence 25 is not a Prime No.

**Program-37**

#to Show the brief details of a Sentence

txt=(input(**"Enter a Sentence to Show its Stats : "**))  
countN=countU=countL=0  
countT=countS=0  
**for** x **in** txt:  
 **if** x.isdigit():  
 countN+=1  
 **elif** x.isupper():  
 countU+=1  
 **elif** x.islower():  
 countL+=1  
 **elif** x.isalnum()!=**True and** x!=**' '**:  
 countS+=1  
print(**"No. of Character including White Space are"**,len(txt))  
print(**"No. of Digit are"**,countN)  
print(**"No. of UPPERCASE Letter are"**,countU)  
print(**"No. of lowercase Letter are"**,countL)  
print(**"No. of Symbolic Character are"**,countS)

**Output-37**

Enter a Sentence to Show its Stats : Hello my 123

No. of Character including White Space are 12

No. of Digit are 3

No. of UPPERCASE Letter are 1

No. of lowercase Letter are 6

No. of Symbolic Character are 0

**Program-38**

*#Email Validator for Specific Company*Email=(input(**"Enter Valid E-Mail Address : "**))  
domain=**'@MASD.IN'**ledo=len(domain)  
lema=len(Email)  
sub=Email[lema-ledo: ]  
**if** sub==domain :  
 **if** ledo!=lema:  
 print(**"It is a Valid Email"**)  
 **else**:  
 print(**'It is an Invalid Email'**)  
**else**: print( **"It has some different Domain"**)

**Output-38**

Enter Valid E-Mail Address : hkdj@gmail.com

It has some different Domain

**Program-39**

#To Show a 2D List using User’s Given Value

Lst=[]  
r=int(input(**"How many rows : "**))  
c=int(input(**"How many column : "**))  
**for** i **in** range (r) :  
 row=[ ]  
 **for** j **in** range (c):  
 elem=int(input(**"Element "** + str(i)+**","**+str(j)+**" : "**))  
 row.append(elem)  
 Lst.append(row)  
print(**"List created is :"** , Lst)

**Output-39**

How many rows : 5

How many column : 2

Element 0,0 : 3

Element 0,1 : 2

Element 1,0 : 1

Element 1,1 : 4

Element 2,0 : 5

Element 2,1 : 6

Element 3,0 : 7

Element 3,1 : 8

Element 4,0 : 9

Element 4,1 : 0

List created is : [[3, 2], [1, 4], [5, 6], [7, 8], [9, 0]]

**Program-40**

#PyApp to Modify List Elements

val = [117, 23, 18, 19]  
print(**"the List is = "**, val)  
**while True**:  
 print(**"Main Menu"**)  
 print(**"l. Insert"**)  
 print(**"2. Delete"**)  
 print(**"3. Exit"**)  
 ch = int(input(**"Enter your choice 1/2/3 : "**))  
 **if** ch == 1:  
 item = int(input(**"Enter item : "**))  
 pos = int(input(**"Insert at which position "**))  
 index = pos- 1  
 val.insert(index, item)  
 print(**"SUCCESS! List is now : "**, val)  
 **elif** ch == 2:  
 print(**"Deletion Menu "**)  
 print(**"1. Delete using Value"**)  
 print(**"2. Delete using index"**)  
 print(**"3. Delete a sublist"**)  
 dch = int(input(**"Enter choice (1 or 2 or 3): "**))  
 **if** dch == 1:  
 item = int(input(**"Enter Item to be deleted : "**))  
 val.remove(item)  
 print(**"List now is : "**, val)  
 **elif** dch == 2:  
 index = int(input(**"Enter index of item to be deleted : "**))  
 val.pop(index)  
 print(**"List is Now :"**, val)  
 **elif** dch == 3:  
 l = int(input(**"Enter lower limit of List slice to be deleted: "**))  
 h = int(input(**"Enter upper limit of List slice to be deleted:"** ))  
 **del** val[l:h]  
 print(**"List now is:"**, val)  
 **elif** ch==3:  
 **break**;  
 **else**:  
 print(**"Valid choices are 1/2/3 only !! "**)

**Output-40**

The List is = [117, 23, 18, 19]

Main Menu

l. Insert

2. Delete

3. Exit

Enter your choice 1/2/3 : 1

Enter item : 106

Insert at which position 1

SUCCESS! List is now : [106, 117, 23, 18, 19]

Main Menu

l. Insert

2. Delete

3. Exit

Enter your choice 1/2/3 : 2

Deletion Menu

1. Delete using Value

2. Delete using index

3. Delete a sublist

Enter choice (1 or 2 or 3): 1

Enter Item to be deleted : 19

List now is : [106, 117, 23, 18]

Main Menu

l. Insert

2. Delete

3. Exit

Enter your choice 1/2/3 : 3

**PROGRAM-41**

*# Finding Mean, Mode and Median of the Given data by Logical Method*  
data=str(input( **"Enter the data separated by comma : "**))  
data1=list(map(float,data.split(**","**)))  
n1=len(data1)  
print(**"The lenght of Given Data is : "** ,n1)  
total=0  
**for** n **in** data1:  
 total += int(n)  
print(**"The sum of the Number is "**, float(total))  
Mean=total/n1  
print(**"The Mean of the data is : "**, float(Mean))  
data\_sorted=sorted(data1)  
print(**"The ascending order of the data is : "**, data\_sorted)  
**if** (n1%2==0):  
 Median=(data\_sorted[(n1)//2])  
**else**:  
 Median=data\_sorted[((n1)//2)+1]  
print(**"The median of the data is : "**, float(Median))

**OUTPUT-41**

Enter the data separated by comma : 12,321,23,132,231,231,1,1,32,32,22,4,354,34,34,32,22

The length of Given Data is : 17

The sum of the Number is 1518.0

The Mean of the data is : 89.29411764705883

The ascending order of the data is : [1.0, 1.0, 4.0, 12.0, 22.0, 22.0, 23.0, 32.0, 32.0, 32.0, 34.0, 34.0, 132.0, 231.0, 231.0, 321.0, 354.0]

The median of the data is : 32.0

**Program-42**

#PyApp to Differentiate Domain & User Name From Email IDs and Represent in Tuple

**import** datetime

T1=[]  
T2=[]  
T3=[]

now=datetime.datetime.now()

print(now.strftime(**' %A, %dth, %B ,%Y'**)) #print current date  
Student=int(input(**"How many Students Data Needed to be Entered : "**))\  
**for** a **in** range(1,Student+1):  
 Email=input(**" Enter Your Email ID : "**)  
 T1.append(Email)  
 name,domain=Email.split(**"@"**)  
 T2.append(name)  
 T3.append(domain)  
 print ( **" Successfully Added "** )  
T1,T2,T3=tuple(T1),tuple(T2),tuple(T3)  
print()  
print(**'Students Email IDs are : '"\n"**,T1)  
print(**'User Name Tuple'**,**"\n"**,T2)  
print(**'User Name Tuple'**,**"\n"**,T3)

**OUTPUT-42**

Thursday, 10th, December ,2020

How many Students Data Needed to be Entered : 4

Enter Your Email ID : Hello@gmail.com

Successfully Added

Enter Your Email ID : Welcome@yahoo.in

Successfully Added

Enter Your Email ID : Namaskar@SPD.in

Successfully Added

Enter Your Email ID : Ciao@masd.com

Successfully Added

Students Email IDs are :

('Hello@gmail.com', 'Welcome@yahoo.in', 'Namaskar@SPD.in', 'Ciao@masd.com')

User Name Tuple

('Hello', 'Welcome', 'Namaskar', 'Ciao')

User Name Tuple

('gmail.com', 'yahoo.in', 'SPD.in', 'masd.com')

***Sources:-***

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**THANK YOU**